SEQUENCE LISTING

<110> Zankel, et al. <120> MANUFACTURE OF HIGHLY PHOSPHORYLATED LYSOSOMAL ENZYMES AND USES THEREOF <130> 30610/39385A <150> US 60/542,586 <151> 2004-02-06 <160> 4 <170> PatentIn version 3.3 <210> 1 <211> 2847 <212> DNA <213> Mus musculus <400> 1 60 atgaaagggt ccctcctgct gctgctggtg tcaaacctgc tcctgtgcca gagcgggtcc ggagccgggg cccacatcct actccatgat ttcctgctgg ttccccgaga gctgagtggc 120 180 tectececag tectggagga gaeteaceca geteaceage agggagecag cagaecaggg 240 ccccgggatg cccaggcaca ccccggccgt cccagagcag tgcccacaca gtgcgacgtc 300 cccccaaca gccgcttcga ttgcgcccct gacaaggcca tcacccagga acagtgcgag gcccgcgct gctgctacat ccctgcaaag caggggctgc agggagccca gatggggcag 360 ccctqqtqct tcttcccacc caqctacccc aqctacaagc tggagaacct gagctcctct 420 480 gaaatgggct acacggccac cctgacccgt accacccca ccttcttccc caaggacatc ctgaccctgc ggctggacgt gatgatggag actgagaacc gcctccactt cacgatcaaa 540 600 qatecaqeta acaqqeqeta egaqqtqeee ttggagacee egeqtqteca cageegggea 660 ccgtccccac tctacagcgt ggagttctcc gaggagccct tcggggtgat cgtgcaccgg caqctqqacq gccqcqtgct gctgaacacq acggtggcgc ccctgttctt tgcggaccag 720 ttccttcagc tgtccacctc gctgccctcg cagtatatca caggcctcgc cgagcacctc 780 agteceetga tgeteageae cagetggaee aggateaeee tgtggaaeeg ggaeettgeg 840 cccacgcccg gtgcgaacct ctacgggtct caccctttct acctggcgct ggaggacggc 900 gggtcggcac acggggtgtt cctgctaaac agcaatgcca tggatgtggt cctgcagccg 960 agccctgccc ttagctggag gtcgacaggt gggatcctgg atgtctacat cttcctgggc 1020 ccagagccca agagcgtggt gcagcagtac ctggacgttg tgggataccc gttcatgccg 1080 ccatactggg gcctgggctt ccacctgtgc cgctggggct actcctccac cgctatcacc 1140 cgccaggtgg tggagaacat gaccagggcc cacttccccc tggacgtcca atggaacgac 1200 1260 ctggactaca tggactcccg gagggacttc acgttcaaca aggatggctt ccgggacttc

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Leu Val Pro Arg Glu Leu Ser Gly Ser Ser Pro Val Leu Glu Glu Thr 35 40 45

His Pro Ala His Gln Gln Gly Ala Ser Arg Pro Gly Pro Arg Asp Ala 50 55 . 60

Gln Ala His Pro Gly Arg Pro Arg Ala Val Pro Thr Gln Cys Asp Val 65 70 75 80

Pro Pro Asn Ser Arg Phe Asp Cys Ala Pro Asp Lys Ala Ile Thr Gln 85 90 95

Glu Gln Cys Glu Ala Arg Gly Cys Cys Tyr Ile Pro Ala Lys Gln Gly
100 105 110

Leu Gln Gly Ala Gln Met Gly Gln Pro Trp Cys Phe Phe Pro Pro Ser 115 120 125

Tyr Pro Ser Tyr Lys Leu Glu Asn Leu Ser Ser Ser Glu Met Gly Tyr 130 135 . 140

Thr Ala Thr Leu Thr Arg Thr Thr Pro Thr Phe Phe Pro Lys Asp Ile 145 150 155 160

Leu Thr Leu Arg Leu Asp Val Met Met Glu Thr Glu Asn Arg Leu His 165 170 175

Phe Thr Ile Lys Asp Pro Ala Asn Arg Arg Tyr Glu Val Pro Leu Glu 180 185 190

Thr Pro Arg Val His Ser Arg Ala Pro Ser Pro Leu Tyr Ser Val Glu
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Phe Ser Glu Glu Pro Phe Gly Val Ile Val His Arg Gln Leu Asp Gly 210 215 220

Arg Val Leu Leu Asn Thr Thr Val Ala Pro Leu Phe Phe Ala Asp Gln 225 230 235

Phe Leu Gln Leu Ser Thr Ser Leu Pro Ser Gln Tyr Ile Thr Gly Leu 245 250 255

Ala Glu His Leu Ser Pro Leu Met Leu Ser Thr Ser Trp Thr Arg Ile 260 265 270

Thr Leu Trp Asn Arg Asp Leu Ala Pro Thr Pro Gly Ala Asn Leu Tyr 275 280 285

Gly Ser His Pro Phe Tyr Leu Ala Leu Glu Asp Gly Gly Ser Ala His 290 295 300

Gly Val Phe Leu Leu Asn Ser Asn Ala Met Asp Val Val Leu Gln Pro 305 310 315 320

Ser Pro Ala Leu Ser Trp Arg Ser Thr Gly Gly Ile Leu Asp Val Tyr 325 330 335

Ile Phe Leu Gly Pro Glu Pro Lys Ser Val Val Gln Gln Tyr Leu Asp 340 345 350

Val Val Gly Tyr Pro Phe Met Pro Pro Tyr Trp Gly Leu Gly Phe His 355 360 365

Leu Cys Arg Trp Gly Tyr Ser Ser Thr Ala Ile Thr Arg Gln Val Val 370 375 380

Glu Asn Met Thr Arg Ala His Phe Pro Leu Asp Val Gln Trp Asn Asp 385 390 395 400

Leu Asp Tyr Met Asp Ser Arg Arg Asp Phe Thr Phe Asn Lys Asp Gly
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Phe Arg Asp Phe Pro Ala Met Val Gln Glu Leu His Gln Gly Gly Arg
420 425 430

Arg Tyr Met Met Ile Val Asp Pro Ala Ile Ser Ser Ser Gly Pro Ala 435 440 445

Gly Ser Tyr Arg Pro Tyr Asp Glu Gly Leu Arg Arg Gly Val Phe Ile 450 455 460

Thr Asn Glu Thr Gly Gln Pro Leu Ile Gly Lys Val Trp Pro Gly Ser 465 470 475 480

Thr Ala Phe Pro Asp Phe Thr Asn Pro Thr Ala Leu Ala Trp Trp Glu 485 490 495

Asp Met Val Ala Glu Phe His Asp Gln Val Pro Phe Asp Gly Leu Trp 500 505 510

Ile Asp Met Asn Glu Pro Ser Asn Phe Ile Arg Gly Ser Glu Asp Gly 515 520 525

- Cys Pro Asn Asn Glu Leu Glu Asn Pro Pro Tyr Val Pro Gly Val Val 530 535 540
- Gly Gly Thr Leu Gln Ala Ala Thr Ile Cys Ala Ser Ser His Gln Phe 545 550 555
- Leu Ser Thr His Tyr Asn Leu His Asn Leu Tyr Gly Leu Thr Glu Pro 565 570 575
- Ile Ala Ser His Arg Ala Leu Val Lys Ala Arg Gly Thr Arg Pro Phe 580 585 590
- Val Ile Ser Arg Ser Thr Phe Ala Gly His Gly Arg Tyr Ala Gly His 595 600 605
- Trp Thr Gly Asp Val Trp Ser Ser Trp Glu Gln Leu Ala Ser Ser Val 610 620
- Pro Glu Ile Leu Gln Phe Asn Leu Leu Gly Val Pro Leu Val Gly Ala 625 630 635 640
- Asp Val Cys Gly Phe Leu Gly Asn Thr Ser Glu Glu Leu Cys Val Arg 645 650 655
- Trp Thr Gln Leu Gly Ala Phe Tyr Pro Phe Met Arg Asn His Asn Ser 660 665 670
- Leu Leu Ser Leu Pro Gln Glu Pro Tyr Ser Phe Ser Glu Pro Ala Gln 675 680 685
- Gln Ala Met Arg Lys Ala Leu Thr Leu Arg Tyr Ala Leu Leu Pro His 690 695 700
- Leu Tyr Thr Leu Phe His Gln Ala His Val Ala Gly Glu Thr Val Ala 705 710 715 720
- Arg Pro Leu Phe Leu Glu Phe Pro Lys Asp Ser Ser Thr Trp Thr Val 725 730 735
- Asp His Gln Leu Leu Trp Gly Glu Ala Leu Leu Ile Thr Pro Val Leu 740 745 750
- Gln Ala Gly Lys Ala Glu Val Thr Gly Tyr Phe Pro Leu Gly Thr Trp 755 760 765

Tyr Asp Leu Gln Thr Val Pro Ile Glu Ala Leu Gly Ser Leu Pro Pro 770 775 780

Pro Pro Ala Ala Pro Arg Glu Pro Ala Ile His Ser Glu Gly Gln Trp 785 790 795 800

Val Thr Leu Pro Ala Pro Leu Asp Thr Ile Asn Val His Leu Arg Ala 805 810 815

Gly Tyr Ile Ile Pro Leu Gl
n Gly Pro Gly Leu Thr Thr Glu Ser $820 \\ 825 \\ 830$

· Arg Gln Gln Pro Met Ala Leu Ala Val Ala Leu Thr Lys Gly Glu 835 840 845

Ala Arg Gly Glu Leu Phe Trp Asp Asp Gly Glu Ser Leu Glu Val Leu 850 855 860

Glu Arg Gly Ala Tyr Thr Gln Val Ile Phe Leu Ala Arg Asn Asn Thr 865 870 875 880

Ile Val Asn Glu Leu Val Arg Val Thr Ser Glu Gly Ala Gly Leu Gln 885 890 895

Leu Gln Lys Val Thr Val Leu Gly Val Ala Thr Ala Pro Gln Gln Val 900 905 910

Leu Ser Asn Gly Val Pro Val Ser Asn Phe Thr Tyr Ser Pro Asp Thr 915 920 925

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